What is claimed is:

1. A method of miniaturizing the size of an organic structure on a substrate comprising applying an electrical potential to the substrate whereby the organic structure is electrochemically desorbed from the outside of the organic structure.

2. The method of Claim 1, wherein the electrical potential is less than about –400mV.

3. The method of Claim 1 , wherein the electrical potential is between about –400mV and about –1500mV.

4. The method of Claim 1, wherein the electrical potential is applied in the presence of a solution.

5. The method of Claim 1, wherein the electrical potential is applied in the presence of an electrolyte.

6. The method of Claim 5, wherein the electrolyte is an inorganic molecule.

7. The method of Claim 6, wherein the electrolyte is selected from the group consisting of Li^+, Cs^+, Na^+ and K^+ cations.

8. The method of Claim 5, wherein the electrolyte is an organic molecule.

9. The method of Claim 8, wherein the electrolyte is a tetraalkylammonium cation.

10. The method of Claim 9, wherein the tetraalkylammonium cation is at least one of $(CH_3CH_2)_4N^+$ and $[CH_3(CH_2)_3]_4N^+$.

11. The method of Claim 1, wherein the organic structure makes contact with the substrate through a sulfur atom.

12. The method of Claim 1, wherein the organic structure makes contact with the substrate through a selenium atom.

13. The method of Claim 1, wherein the substrate is a polycrystalline metal.

14. The method of Claim 1, wherein the substrate is an ultra-flat single crystal metal.

15. The method of Claim 1, wherein the substrate is gold.

16. A method of miniaturizing the size of an organic structure fabricated on a substrate by process selected from the group consisting of Dip Pen Nanolithography, printing, stamping, photolithography and combinations thereof, comprising applying an electrical potential to the substrate whereby the organic structure is electrochemically desorbed from the outside of the organic structure.

17. The method of Claim 16, wherein the electrical potential is less than about –400mV.

18. The method of Claim 16, wherein the electrical potential is between about –400mV and about –1500mV.

19. The method of Claim 16, wherein the electrical potential is applied in the presence of a solution.

20. The method of Claim 16, wherein the electrical potential is applied in the presence of an electrolyte.

21. The method of Claim 20, wherein the electrolyte is an inorganic molecule.

22. The method of Claim 21, wherein the electrolyte is selected from the group consisting of Li^+, Cs^+, Na^+ and K^+ cations.

23. The method of Claim 20, wherein the electrolyte is an organic molecule.

24. The method of Claim 23, wherein the electrolyte is a tetraalkylammonium cation.

25. The method of Claim 24, wherein the tetraalkylammonium cation is at least one of $(CH_3CH_2)_4N^+$ and $[CH_3(CH_2)_3]_4N^+$.

26. The method of Claim 16, wherein the organic structure makes contact with the substrate through a sulfur atom.

27. The method of Claim 16, wherein the organic structure makes contact with the substrate through a selenium atom.

28. The method of Claim 16, wherein the substrate is a polycrystalline metal.

29. The method of Claim 16, wherein the substrate is an ultra-flat single crystal metal.

30. The method of Claim 16, wherein the substrate is gold.

31. The method of Claim 16, wherein molecules forming the organic structures are selected from the group consisting of 16-mercaptohexadecanoic acid, l-octadecanethiol, octadecaneselenol and combinations thereof.

32. A method of miniaturizing the size of a first organic structure in the presence of a second organic structure on a substrate comprising applying an electrical potential to the substrate whereby the first organic structure is electrochemically desorbed from the outside of the organic structure without negatively affecting the second organic structure.

33. The method of Claim 32, wherein the first organic structure makes contact with the substrate through a selenium atom and the second organic molecule makes contact with the substrate through a sulfur atom.

34. The method of Claim 32, wherein the first organic structure comprises a hexadecanoic acid tail group and the second organic molecule comprises an octadecane tail group.

35. A method of miniaturizing the size of organic structures on a substrate comprising:

a. applying a first electrical potential to the substrate whereby a first organic structure is electrochemically desorbed from the outside of the organic structure without negatively affecting a second organic structure; and,

b. applying a second electrical potential to the substrate whereby a second organic structure is electrochemically desorbed from the outside of the organic structure without negatively affecting the first organic structure.

36. The method of Claim 35, wherein the first applying step (a) is conducted in a first electrolyte solution and wherein the second applying step (b) is conducted in a second electrolyte solution.

37. A method of forming organic structures on a conductive substrate comprising:

a. forming a first organic structure on a conductive substrate;

b. forming at least one additional organic structure on the conductive substrate; and,

c. applying an electrochemical potential to the substrate whereby the first organic structure is desorbed to form an organic structure comprising the at least one additional organic structure on the conductive substrate.

38. A method of forming organic structures on a conductive substrate comprising:

a. forming a first organic structure on a conductive substrate in a first position;

b. forming at least one additional organic structure on the conductive substrate in at least one second position;

c. applying an electrochemical potential to the substrate whereby the first organic structure is desorbed;

d. contacting the conductive substrate with a molecule that will adhere to the surface of the substrate to form an organic structure comprising the at least one additional organic structure in the at least one second position and the molecule that will adhere to the surface of the substrate in the first position on the conductive substrate.